

Listening text transcripts

Best Shots for Agriculture and Forestry, Themenheft 2

Track 1 | Meet the young farmers who play *Farming Simulator*

Unit 1

Interviewer: Imagine that you spend most of your day ploughing fields, sowing seeds, spraying fertilizers or pesticides, harvesting crops, feeding livestock, repairing fences, and maintaining half a dozen different kinds of farm machinery. And then, in the evening, you sit down at a computer to do it all again – virtually. *Farming Simulator* is a long-running video game series played by about a million people. The game's creator estimates that as many as a quarter of its players are connected to farming in some way. We would like to know why young farmers are so fascinated by this computer game. So, call us and share your experiences with us.

Oh, there is someone at the other end of the phone already. Hello!

Nicky: Hi! My name is Nicky Welker and I live on a 10,000 acre wheat farm in northern Montana. I enjoy playing *Farming Simulator* because it's fun to grow and build something and overcome challenges. It's also about trying to manage your budget, buying the land next to you, and getting new equipment that will make your operation more efficient. *Farming Simulator* is simply so authentic.

Interviewer: How does the virtual farm compare to your real farm?

Nicky: Well, my virtual farm is not vast by US standards. It is a substantial operation, and I do own several *Big Bud* tractors, which are among the largest agricultural tractors in the world. Such equipment is expensive, however, and not available to all real-world farmers.

Interviewer: So, does *Farming Simulator* fulfill a different kind of purpose? Let's ask our next caller, Wade Kelley. Why do you enjoy playing this game, Wade?

Wade Kelley: One of the main reasons why I play *Farming Simulator* is that, in real life, we don't run a very large operation. My family owns a 500-acre corn farm in Tennessee. But through *Farming Simulator* I can create large crop farms and choose from a lot of different expensive equipment.

Interviewer: I see.

Wade Kelley: But some farmers also see games like *Farming Simulator* as a connection to a lifestyle that is slowly dying out. 100 years ago, almost everyone either lived on a farm or knew someone that ran a farm.

Interviewer: That's an interesting point, Wade. Thank you for sharing your thoughts with us. I've just heard that we've got another caller on the line. Hello!

Sam Manning: Hi, I'm Sam Manning from Herefordshire in the UK. I'm currently visiting my family in the States and I agree with what has just been said. In the UK, gross farm income has declined by 50% in the last 40 years. My family, for example, had to leave Coldborough Park, a tenant farm which my family had managed for generations. But the BSE crisis in 1997 and a sudden drop in wheat prices meant that we had to find work elsewhere. It was sad that it had to end like that. I have not worked on a farm since. But in 2011, I picked up a copy of *Farming Simulator*. Over the following years, I used the game to virtually recreate Coldborough Park.

Interviewer: So, what role does *Farming Simulator* play in your life?

Sam Manning: For me, *Farming Simulator* is a kind of relaxation therapy, a way to restore a part of my former life. By the way, Coldborough Park has become one of the most popular user-made maps for *Farming Simulator*. The game developer even asked me to create a version of it specifically for the next game's launch. I'm married, I've got children, I live in an ordinary house with an ordinary job. Having a big game company coming to me and asking me to make something for them made me really proud.

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Interviewer: Congratulations!

Sam Manning: But Coldborough Park isn't the only farm to receive a virtual makeover. A group of modders has just finished mapping a 10,000 acre farm as a free map download for the new Farming Simulator. The map is so lifelike that a couple of local schools have asked for permission to use it in their agricultural classes. They have set up computer labs and they're letting students in the agricultural department play *Farming Simulator* in class, to educate them about farm life.

Interviewer: So, it looks as if the relationship between farmers and *Farming Simulator* is growing stronger. Let's move on to another aspect of this game ...

Source: Rick Lane: "Meet the real-life farmers who play Farming Simulator", in: <https://www.theguardian.com/games/2018/jul/24/meet-the-real-life-farmers-who-play-farming-simulator> (July 24, 2018) [adapted & abridged]

Track 2 | Can farmers cope with climate change?

Unit 2

Interviewer: Today we are in one of Austria's leading wine-growing regions, the Wachau. We're going to talk about the future of wine production with Vera Schmid, a climatologist at the University of Natural Resources and Life Sciences, and local winemaker Max Huber. Austrian winemakers are worried about the rapidly heating climate which threatens their best-known product, the *Grüner Veltliner*.

This is not the first time that Austrian winegrowers are faced with difficulties. Many people may remember that the local wine industry was nearly ruined three decades ago because of a scandal that involved wine contaminated with antifreeze. But thanks to innovative and enthusiastic farmers, the country has been put back on the global wine map. On to our guests. Thank you for joining us!

Mr Huber: Thank you for having me. Well, you are right, we had to face tough times, but over the last few decades we have managed to turn our dry white wine into a cult beverage. Now, you can order a glass of *Grüner Veltliner* in open-air Heurigen taverns around Vienna, but also in bars from New York to New Zealand. The problem is, however, that we are worried that current developments could mean the end of this success story.

Interviewer: What exactly puts the *Grüner Veltliner* at risk?

Mr Huber: Well, this is a really complex issue. Rising temperatures affect the sprouting, flowering and maturity of grapevines. We are also noticing that the high temperatures clearly cause higher levels of sugar and therefore a higher alcohol content, which also affects the wine's quality. For us, this spells trouble. In Austria, temperatures have risen by 2 degrees since 1880. That is more than twice the global average. If global warming continues like this, we are heading for a disaster. Our economy and our cultural assets are at risk.

Interviewer: That sounds serious. Ms Schmid, how do you see this situation, as a climatologist?

Ms Schmid: First, I'd like to add that the *Grüner Veltliner* is Austria's main wine export and by far the most important grape variety in Austria. It accounts for more than a third of vineyard plantings. White wine grapes like *Veltliner* lose their freshness and fine aroma when exposed to higher temperatures. As a result, producers of *Grüner Veltliner* are coming under pressure because the usual quality standards of acidity can hardly be achieved any more.

Interviewer: What would the loss of the *Grüner Veltliner* mean to Austria?

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Mr Huber: If we lost the *Grüner Veltliner*, we would lose a key part of our identity. The situation is serious. Now, we already harvest the grapes a month earlier than when I was young. If global warming continues, these grapes will simply no longer grow.

Interviewer: What would that mean for Austria's economy?

Ms Schmid: Undoubtedly, wine growing is important for our economy. Austria produces on average 2.5 million hectolitres of wine, primarily for domestic consumption. However, a lot of wine is exported, too. In previous years, Austria sold almost 53 million litres, worth 170 million euros, to other countries, with Germany being the most important market.

Interviewer: Do you think that Austrian wine growers can adapt to climate change?

Mr Huber: Well, for new plantings, we have already moved to higher ground, but suitable cultivation areas are limited. And we have switched to planting red wine grapes in warmer areas, as they are generally more heat-resistant and thrive in warmer temperatures. But adjusting to these new climatic conditions is hard.

Ms Schmid: It's particularly challenging because the vineyard is a long-lived culture. Even though some growers are considering changing to other varieties, we believe it's important to create an environment that makes it possible to grow *Grüner Veltliner* in the future.

Interviewer: Thank you for your insights into Austria's wine production.

Source: Alexandra Schwarz-Goerlich: "Warming climate puts Austria's hip Gruener Veltliner wine at risk", in: <https://www.reuters.com/article/us-austria-wine/warming-climate-puts-austrias-hip-gruener-veltliner-wine-at-risk-idUSKBN1WV185> (October 16, 2019) [adapted & abridged]

Track 3 | Make the consumer part of your farm

Unit 3

Interviewer: Today we're talking about *CSA* farming. As some of our listeners might know, *CSA* stands for *Community-Supported Agriculture*. This farming concept connects the consumer and the producer by asking the consumer to pay for a share of the harvest in advance. Today's guests are Cindy and Hank, who have managed to keep their farm profitable, thanks to *CSA* farming. Well, Cindy, could you start by telling us a few things about the history of your farm?

Cindy: We currently farm 140 acres in College Grove, Tennessee. In 1997, we began the process of turning the farm into an organic operation and the farm became certified as an organic farm in 1998. We believe in growing methods that improve the quality of our water, our soils and do not use harmful chemicals. Our organic vegetables contain nutrients extracted from our deep mineral rich soils, clean air and fresh water. Throughout the seasons you can find over 80 varieties of heirloom and traditional vegetables grown on our farm.

Interviewer: What made you turn to *CSA* farming? Can you explain the concept of *CSA* farming to our listeners?

Hank: Sure! One year after converting to organic farming, Cindy and I wanted to find a way to get our farm's produce directly to the consumers. Raising organic produce was so time consuming, we realized we couldn't have customers coming all the time. Well, we had heard about *CSA* farming, which then was a new direct marketing concept, and it sounded pretty simple and promising. Customers could buy shares or subscriptions for farm products at the beginning of the year. During the harvest season, farmers would deliver boxes filled with fresh produce to the customers' homes or to pick-up sites every week or every other week. We decided to give it a try. In February of 2000, we developed a plan for succession plantings that would provide people with a continuous share.

Interviewer: Did your plan work out from the very beginning or did you face any challenges?

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Cindy: Actually, we didn't know exactly what would be in the first box until the first day. We started with only 25 *CSA* members, but by the end of the first season, there were 125 members. Currently, we sell around 800 boxes per week. During the course of a season, we grow over 50 varieties of vegetables. Each box has from 6 to 12 varieties of fresh vegetables, "picked at peak of harvest".

Our season starts with broccoli, cabbage, onions, strawberries, lettuces and other cool-season greens. In summer, we harvest tomatoes, peppers, corn, melons, blackberries, potatoes, squashes, cucumbers, beans and eggplants. Fall wraps up the season with some of our customer's favorites such as sweet potatoes, butternut pumpkins and kales.

Our daughter Amy, our son Hank Jr. and his wife Liz now work on the farm. One of the things we did right from the start was to always deliver a high-quality product to our members. The produce is attractively packed into the boxes – our members often tell us they take a picture of the box before unpacking it.

Hank: So now, after 12 years, our project has turned into a success story.

Interviewer: It really sounds like *CSA* farming was the right choice for you. Do you have any plans for the future?

Hank: Well, we would like to share our knowledge and help other farmers set up a *CSA* farm.

Interviewer: What should future *CSA* farmers bear in mind? Can you give them any tips?

Hank: We believe it's important to teach them to avoid common mistakes. The first one is poor share planning. Another mistake is not taking enough time to run the *CSA*. New *CSA* farmers often don't realize until the season starts how much time actually goes into growing the food. One thing that can help them manage their time well is extensive planning before the season – especially planning for continuous harvests. Succession plantings are the key to success. A *CSA* simply cannot run out of produce in the middle of the season.

Cindy: I'd also like to add that unsuccessful *CSAs* are often the consequence of a lack of producer commitment. We've had a lot of sleepless nights because people are trusting us to grow their food. One of the challenges of running a *CSA* is knowing that you have to keep things going. The uncertainty of weather, disease pressure and pest damage can put additional pressure on a *CSA* producer to deliver the promised number of shares. People are trusting you to grow their food. You should find a way to fill their boxes with fresh vegetables.

Interviewer: Cindy, Hank, thank you so much for the interview. Now, if you are interested in buying a *CSA* share, you can check out Cindy's and Hank's website or look up *CSA* farmers in your area.

Sources: Megan L. Bruch/Matthew D. Ernst: "Delvin Farms: What New *CSAs* Can Learn from a Successful Tennessee *CSA*", in: *A Farmer's Guide to Marketing through Community Supported Agriculture (CSAs)* (<https://extension.tennessee.edu/publications/documents/pb1797.pdf>) (December 2010) [adapted & abridged]

Track 4 | Experiences abroad, Speaker 1

Unit 4

My name is Chloe and I did my 14-week internship on a dairy farm in the South-East of Australia. The farm was located in Victoria, which is also known as the Garden State. My job on the farm consisted of working split shifts every day. I'd get up at 4 am to be at the dairy by 4:45 am. The dairy had to be ready for milking by 5. Then I'd milk 750 cows for about 2.5 to 3 hours. Once that was all done, the entire dairy was cleaned by blasting away the cow dung with hoses. This process was repeated again at 2 pm. Waterproofs and wellies are very useful! You can just hose them down when you are finished.

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At the farm, you usually work in pairs with your work buddy. One of you is in charge of setting up the dairy and milking, while the other brings the cows into the dairy, sets up the afternoon field and does other miscellaneous farm jobs.

By the way, it was a rotary parlour – the cows get on one by one while the platform rotates. They are fed while the milker places suction cups on their udders. The cows are milked as the platform moves, for about 5 minutes, and then they exit on the other side.

Well, I could do without getting up at 4 am. I love my sleep and getting up at that time 6 days a week was painful. I would love to say I got used to it, but I didn't. What I really enjoyed though was moving the cows to fresh pasture every couple of days.

Source: Chloe Tomassini: "Working on a dairy farm: My farm work experience in Australia", in: <http://chloesfootsteps.com/working-on-a-dairy-farm-my-farm-work-experience-in-australia/> (October 20, 2018) [adapted & abridged]

Track 5 | Experiences abroad, Speaker 2

Unit 4

I am Brian and I'm attending an agricultural college in the South-West of England at the moment. I applied to several livestock farmers in the UK and luckily, I was hired by a conventional pig farmer in Wales. At the beginning I was a bit worried, because I had hardly had any experience with pigs. But I really shouldn't have been worried about being incompetent; because as long as you have some common sense, everything will be fine.

You know, the pig production cycle can be complicated, depending on the type of pig farm. Some farmers run a closed cycle pig operation while others only have pigs of a certain age, for example weaned pigs. At my farm, there was a farrowing unit with 900 piglets, which needed quite a lot of care from me. If you apply to such a farm, be prepared: You might be asked to muck out or even jet wash pens in some cases, but this is outweighed by how involved you can get. I inseminated, vaccinated, and even gave iron shots. Make sure you know what type of farm you are going to, so you know what to expect before you get there.

Track 6 | Experiences abroad, Speaker 3

Unit 4

Hi everybody. I am Lisa and my internship took me abroad to *Cherry Gardens Farm*, a mid-sized organic holding located on the edge of Ashdown Forest in East Sussex. The farm is run by Tim and Ellen Smith, who converted to organic farming several years ago. They produce a wide range of vegetables and fruits for all-year-round sales through their farm shop. They also operate a PYO for some vegetables, fruit and flowers. So, people can pick vegetables, fruits or flowers themselves.

I was involved in all aspects of a very diverse operation from plant growing, soil preparation, planting, weed control and irrigation, to harvesting and packing produce ready for sale. My favorite task was assisting in the farm shop because I could chat with our customers. The work was varied and at times physically demanding. It ranged from hand work to propagation in the polytunnels. I'd really recommend the farm to other interns. You will learn a lot about horticulture, and you'll be part of a small and friendly team.

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Track 7 | Experiences abroad, Speaker 4

Unit 4

My name is David and during my 14-week internship on the other side of the globe, I could experience the true rural Australian lifestyle with nature, wildlife and horses at my doorstep! My duties were to assist with all the everyday duties involved in running a small horse-riding holiday business.

There was a very diverse range of tasks and every day was different, depending on the weather. On some days I had to feed the horses and fill water troughs, on others my duties included general horse care, hoof care, saddling, unsaddling as well as tack and saddle cleaning. As I did such a good job, I was allowed to ride some of the horses in my free time. But unfortunately, I had hardly any time off because there were so many other jobs to do: paddock cleaning and maintenance, picking up horse manure from pastures and yards, stable cleaning, tidying property, pulling out paddock weeds, painting, and repairing fences. In the house I had to clean and prepare guest rooms, sweep the veranda or do general kitchen tasks like dishwashing, and bringing lunch to the guests in the forest.

As for tips – always wear overalls and steel toe-capped wellies because, you know, horses weigh a lot and having one stand on your toe is painful to say the least!

Track 8 | Will drones make farming more efficient?

Unit 5

Willa E: Hi, I'm Willa Evans and this is *Ahead of the Field*, exploring how farmers are growing their businesses for the future. Of all the technologies available, drones are one of the most exciting. So, we've come to *Hampton House Farm* in Kineton, Warwickshire, run by the Gasson family, and we're being joined by Toby. Hi Toby.

Toby G: Good morning.

Willa E: So, tell us what you do here and why you've started using a drone.

Toby G: We're a 400-acre arable farm, growing mostly cereals and oilseed rape. We've recently bought a drone, just to see if we can try and improve the way we do things on the farm.

Willa E: So, you've not had it very long then, but are you already seeing benefits?

Toby G: We are seeing benefits, even when crops are dormant. This spring we've used the drone for chasing pigeons off the rape, which works brilliantly. The drone is also beneficial during the growing season, to look at disease levels and weed levels. Drainage would be another great thing to look at. If we had a broken drain, we'd hopefully be able to spot it from the air. Also, we've got quite a lot of grain stores around and there's always a leaky roof somewhere, so it's always easy to see where the problem is.

Willa E: Now Sue Wrangham is joining us, from Drone AG, a company specialising in developing drones for agriculture. Sue, what sort of jobs can your drones do?

Sue W: Generally, we're looking at faster and more efficient crop inspection. But drones can also be used for nitrogen application, to give just one example.

Willa E: Do farmers need to warn neighbours if they're using a drone?

Sue W: If there's another farm nearby and there are buildings or cattle, you will have to keep the drone 50 metres away. Farmers could complain about drone users disturbing wildlife or livestock.

Willa E: I see. Toby, how familiar are you with the codes and legislation for drones?

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Toby G: I know the basics because when we got the drone, the box contained a little leaflet with the drone code.

Willa E: Another aspect our listeners might be interested in is the wind. We're standing in a very big, open field, it's quite breezy today. Is wind a problem?

Sue W: No, not for the most part. The drones are very, very good at handling wind levels. 20 miles an hour is the limit, though.

Willa E: Well, how are your drones going to change what farmers do? Are farmers going to be doing less walking up and down the fields now?

Sue W: Some might. We have a new app called 'Skippy Scout' which will actually allow farmers to take sample photos from only a metre above the crops. Those photos will allow them to see things like weeds or insect damage. So, you can see, straightaway where there is problem in your crop, where there's not as much growth and where there's more growth. It is a good guide for where you might want to go and crop-walk.

Toby G: If you then see lower growth, you maybe want to start applying fertiliser in contrast to the areas of high growth, where you probably won't need to. So, you could immediately start to see a saving on fertiliser.

Willa E: This is an arable farm. I come from North Wales, mostly livestock farms are to be found up there – what about those livestock farmers? What kind of benefit is a drone to them?

Sue W: We see a lot of livestock farmers, especially up in the hills where they have to travel quite large distances to check sheep. If they used drones, they would not have to walk so much to check their sheep. They could save time and fuel for their quad bikes. I think thermal technology in particular will start to allow livestock managers to really see if there's a problem with their livestock in terms of health.

Willa E: On to my final question: Does every farmer who uses a drone need a licence?

Sue W: No, in most cases, they don't. But, if you make money with it, you need a commercial licence.

Toby G: I'm thinking of getting one. A friend of mine, for example, wants to do a promotional video for his farm shop so he can put it on his website. And then I've got another friend who wants me to take some photos of some fields for drainage. So, there are plenty of opportunities out there.

Willa E: So, we're coming to the end of the day here now and we're really grateful to Toby for showing us around his farm and to Sue for giving us a demonstration of how the drone works. In the meantime, from me, Willa Evans, and everyone here at *Hampton House Farm* in Warwickshire, it's goodbye.

NFU Mutual/Ahead of the field Podcast: "Drones Podcast Transcript", in: <https://www.nfumutual.co.uk/globalassets/farming/drone-insurance/drones-podcast-transcript.pdf> [adapted & abridged]

Track 9 | Farming in the sky

Unit 6

Christine Tan: Okay Ben, so you were working for an international bank. What made you start something crazy like vertical farming?

Benjamin Swan: It all started with an article on Facebook. I was on my way home from work and I read an article on the future of farming and vertical farming very specifically. I was inspired by that and then went on to Professor YouTube and Dr. Google to learn about indoor farming.

Christine Tan: Well, I expect not all our listeners are familiar with this new farming concept. So, could you explain to us what vertical farming is?

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Benjamin Swan: In fact, vertical farming is a new way of producing food. Instead of farming vegetables and other foods in a field or a greenhouse, this method produces food indoors, for example in a skyscraper, shipping container or an old warehouse. The main goal of vertical farming is to produce more food per square meter. To reach this goal, crops are cultivated in stacked layers. Instead of soil, hydroponic growing mediums are used. The temperature, light, humidity, and gases are all constantly controlled and technologies such as rotating beds help improve lighting efficiency.

Christine Tan: Why this passion for farming?

Benjamin Swan: I felt that this was my opportunity to do something that would make a difference. Farming, we know, is a problem right now. We are trying to bring in automation and improve the ways we're using machinery. The thing that we can't improve is land usage. So vertical farming can solve this problem. Growing our kale indoors, we're 127 times more efficient than traditional farms per square foot.

Christine Tan: You have no background in agriculture. Did you not think of the risk you were taking when you started the business?

Benjamin Swan: Absolutely. And to be completely frank, for the first six months it just didn't work.

Christine Tan: So, your first project was to try to grow kale, a crop known to be difficult to grow, in a place like Singapore. It is usually imported from overseas. Why kale?

Benjamin Swan: Kale is a superfood. It actually has three times the nutritional value of, say, lettuce. We have to focus on products that get us a high profit margin in order to break even on the cost.

Christine Tan: Increasing the yield in vertical farming is all about maximizing the space with more growing racks, isn't it?

Benjamin Swan: Absolutely. We need to maximize not only the space, but also the electricity that we need. We haven't reinvented the wheel with indoor farming or vertical farming. We've simply optimized it.

Christine Tan: So, in June you launched the first locally and vertically grown strawberries. How did you make such a breakthrough?

Benjamin Swan: Just by trying and by thinking big. We know Singaporeans love strawberries. Why can't Singaporeans have local strawberries all year long? With indoor vertical farming, we can make this happen.

Christine Tan: So how long did it take you to get it right?

Benjamin Swan: It actually took about three and a half to four months.

Christine Tan: Really? Well, we have to take a quick break now, but don't go away anybody. We'll be right back with more.

Source: CNBC LLC.: "CNBC Transcript: Benjamin Swan, Co-founder and CEO, Sustenir Agriculture", in: <https://www.cnbc.com/2019/01/11/cnbc-transcript-benjamin-swain-co-founder-and-ceo-sustenir-agriculture.html> (January 10, 2019) [adapted & abridged].

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Track 10 | Farming in the sky

Unit 6

Christine Tan: Welcome back everybody. We're here talking with Benjamin Swan about his vertical farming project in Singapore. So, how many kilograms of strawberries are you producing now?

Benjamin Swan: Now we're producing about 400 kilos on 54 square metres. We've just introduced bees to help with the pollination. Pollination was done by hand before. It's very labour-intensive, and you'll never get it as perfect as a bee. By bringing the bees into the space, we're expecting the yield to rise by about 45%.

Christine Tan: So now, you're growing lettuce, cherry tomatoes, arugula, basil, two types of kale and strawberries. What's next? What else do you want to grow?

Benjamin Swan: We can grow almost anything in this space. We've grown every single leafy green and edible flower. Almost anything is possible with indoor farming. Obviously, some products aren't feasible to grow indoors, those that have a very long life-cycle, so we need to choose products that have a shorter life-cycle.

Christine Tan: When you look at the entire business model of vertical farming, there are high start-up costs where a lot of money is required for equipment and technology. How long did it take you to break even, to become profitable?

Benjamin Swan: It took about three years to get there.

Christine Tan: Can you talk about your profit margins? What are they like?

Benjamin Swan: The margins are very profitable here. We've made some changes in the produce that we're growing right now. We were growing cherry tomatoes, for example, but with the strawberries now becoming our hero product, we want to expand on them. As our consumers demand change, we can change with them.

Christine Tan: How many tons of vegetables or fruits do you sell every year?

Benjamin Swan: We sell almost five tons of produce per month. That's both wholesale and retail partners.

Christine Tan: What are your expansion plans? Which cities do you want to be in?

Benjamin Swan: Well, we've got to focus on Asia-Pacific for now. But I want to be in every major city across the globe in the future.

Christine Tan: In a land with limited land resources like Singapore, vertical farming has received a lot of support when it comes to food security. But there are some who argue that vertical farming requires a lot of energy use. How would you respond? And is it a sustainable form of agriculture, in your opinion?

Benjamin Swan: I believe it is. Thanks to vertical farming, less produce is wasted, less energy is needed for transportation, and less land is required to produce the products than in traditional farming. In fact, vertical farming uses 95 percent less water.

Christine Tan: Where do you see the future of vertical farming? What will it be like?

Benjamin Swan: Vertical farming is going to be a supplement to all farming systems. We will produce fruits and vegetables that can't be grown locally all year round. And then we can work with outdoor farmers to help them integrate smart technology, to help them optimise their farming.

Christine Tan: So, do you see vertical farming existing alongside traditional farming?

Benjamin Swan: Yes, I do. What we're doing here with indoor farms, is something that you can never do with outdoor farming. One day you'll get temperature change and cloud cover. So,

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with our environment we can find out the precise way to grow the product as optimally as possible. And then, taking that data to outdoor farms, we can help outdoor farms optimise their crop management.

Christine Tan: You and your business partner Martin are both in your thirties. Are you both what some people call the next generation of farmers?

Benjamin Swan: I guess we are.

Source: CNBC LLC.: "CNBC Transcript: Benjamin Swan, Co-founder and CEO, Sustenir Agriculture", in: <https://www.cnbc.com/2019/01/11/cnbc-transcript-benjamin-swan-co-founder-and-ceo-sustenir-agriculture.html> (January 10, 2019) [adapted & abridged].